## SECTION II—CLAIMS

1. (Original) A mode scrambler, comprising:

an optical fiber adapter having a gap, a first end, and a second end, wherein a single mode optical fiber is coupled to the first end and a multimode optical fiber is coupled to the second end; and

a diffuser disposed in the gap.

2. (Original) The mode scrambler of claim 1 wherein the diffuser comprises a piece of Scotch® tape.

3. (Original) The mode scrambler of claim 1 wherein the diffuser comprises a thin piece of glass.

4. (Original) The mode scrambler of claim 1 wherein the diffuser comprises a thin piece of plastic.

5. (Original) The mode scrambler of claim 1 wherein the diffuser comprises a thin piece of acetate.

6 (Original) The mode scrambler of claim 1 wherein the diffuser comprises a thin piece of acrylic.

7 (Original) The mode scrambler of claim 1 wherein the diffuser comprises particulate suspended in a material having a uniform index of refraction.

8. (Original) The mode scrambler of claim 1 wherein the diffuser comprises air.

9. (Original) A method to scramble an optical signal, comprising:

disposing a diffuser between mating ends of an optical fiber adapter having a single mode end and a multimode end;

launching a single mode signal in the single mode end; and

receiving a multimode optical signal in the multimode end.

10. (Original) The method of claim 9, further comprising disposing a piece of Scotch® tape between the mating ends of the optical fiber adapter.

11. (Original) The method of claim 9, further comprising disposing a thin piece of glass between mating ends of the optical fiber adapter.

12. (Original) The method of claim 9, further comprising disposing a thin piece of plastic between mating ends of the optical fiber adapter.

13. (Original) The method of claim 9, further comprising disposing a thin piece of acetate between mating ends of the optical fiber adapter.

14. (Original) The method of claim 9, further comprising disposing a thin piece of acrylic between mating ends of the optical fiber adapter.

15. (Original) The method of claim 9, further comprising disposing particulate suspended in a material having a uniform index of refraction between mating ends of the optical fiber adapter.

16. (Original) The method of claim 9, further comprising disposing air in the gap.